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(2) a chimeric nucleic acid sequence encoding a fusion protein, the chimeric nucleic acid sequence comprising (a) a nucleic acid sequence encoding a pro-peptide from an autocatalytically maturing aspartic protease, linked in reading frame to (b) a nucleic acid sequence heterologous to the pro-peptide and encoding the recombinant polypeptide, wherein the heterologous nucleic acid sequence is located immediately downstream of the nucleic acid sequence encoding the pro-peptide; operatively linked to

(3) a nucleic acid sequence encoding a termination region functional in said host cell,

b) growing the host cell to produce said fusion protein; and

c) adding a mature form of an autocatalytically maturing zymogen to the fusion protein so that the pro-peptide is cleaved from the fusion protein to release the recombinant polypeptide.

4. (Twice Amended) A method according to claim 1 wherein said aspartic protease is selected from the group consisting of chymosin, pepsin, HIV-1 protease, pepsinogen, cathepsin and yeast proteinase A.

6. (Amended) The method according to claim 1 wherein the chimeric nucleic acid sequence does not include a sequence encoding a mature form of the aspartic protease.

13. (Twice Amended) A method according to claim 1 wherein the mature form of the autocatalytically maturing zymogen added in step (c) is an aspartic protease.

20. (Amended) A chimeric nucleic acid sequence encoding a fusion protein comprising (a) a nucleic acid sequence encoding a pro-peptide from an

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autocatalytically maturing aspartic protease and (b) a nucleic acid sequence encoding a polypeptide that is heterologous to the pro-peptide.

23. (Amended) A chimeric nucleic acid sequence according to claim 20 wherein the aspartic protease is chymosin, pepsin, HIV-1 protease, pepsinogen, cathepsin or yeast proteinase A.

25. (Amended) A chimeric nucleic acid sequence according to claim 20 which does not include a sequence encoding a mature form of the aspartic protease.

41. (Amended) A composition comprising a chimeric nucleic acid sequence encoding a fusion protein, the chimeric nucleic acid sequence comprising (a) a first nucleic acid sequence encoding a pro-peptide from an autocatalytically maturing aspartic protease and (b) a second nucleic acid sequence encoding a polypeptide that is heterologous to the pro-peptide.

42. (Amended) A food composition comprising a chimeric nucleic acid sequence encoding a fusion protein, the chimeric nucleic acid sequence comprising (a) a first nucleic acid sequence encoding a pro-peptide from an autocatalytically maturing aspartic protease and (b) a second nucleic acid sequence encoding a polypeptide that is heterologous to the pro-peptide.

44. (Amended) A composition according to claim 41 wherein said chimeric nucleic acid sequence does not include a sequence encoding a mature form of the aspartic protease.


Please delete claims 2, 3, 21 and 22.